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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

RAMOS FELICIANO, ELISEO

ART UNIT PAPER NUMBER

2617

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/626,056	Applicant(s) FONG ET AL.	
	Examiner Eliseo Ramos-Feliciano	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 1 and 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Art Unit – Notice

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

Election/Restrictions

2. **Claims 1-2** remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on November 8, 2005.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 10, 11, 14-15, and 20-21** rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. **Claims 10-11** recite that “the number of members in the reduced active set is equal to one”, while claim 9 requires “the reduced active set comprises more than one member”. This is contradictory.

6. **Claims 14-16** depend from *claims 10-11*; therefore, they contain the same problems explained above.

7. **Claim 20** recites that “the numbers of the members of the reduced active set is equal to one”, while claim 17 requires “the number of members of the reduced active set is greater than one”. This is contradictory.

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8. **Claim 21** depends from *claim 20*; therefore, it contains the same problems explained above.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claims 3, 5-16 and 22-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US Patent Number 6,516,196) in view of Sorokine et al. (US Patent Number 6,430,414) and further in view of the Admitted Prior Art (Background of the Invention, page 2 of present disclosure) (all three referred as “*the combination*”).

Regarding **claim 3**, Chen et al. discloses a base station controller (BSC / BSC1 – Figure 1), comprising:

an active set generator (column 3, lines 15-31); and

a reduced active set (subset) generator (402 – Figure 4; column 3, lines 15-20; column 5, lines 23-28), wherein the reduced active set generator employs output of the active set generator (the active set is used to generate the reduced set / subset) (column 4, lines 30-34; column 6, lines 53-67; BSC perform calculations of reduced active set – column 8, lines 38-40; column 10, lines 28-30).

Chen et al. further includes base transceiver stations (BTS – Figures 1, 3). The reduced active set (subset) includes particular BTS and can be more than one BTS (e.g. BTS2 and BTS3 – column 6, lines 10-23). For example, BTS2 and BTS3 transmit “control information” over a control channel as claimed (column 6, lines 53-67; column 4, lines 30-41 & 60-67; column 5,

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lines 1-3). The BSC is configured to create indicia of the reduced active set (column 4, lines 30-34; column 6, lines 53-67; column 8, lines 38-40; column 10, lines 28-30).

However, Chen et al. is silent as to that the indicia is sent to the BTS as claimed.

In the same field of endeavor, Sorokine et al. teaches a BSC that sends to a BS (BTS) a NLUM (equivalent to claimed reduced active set or subset of Chen et al.) (see Figure 3: "BSC SENDING NLUM TO BS" and corresponding discussion in Sorokine et al.'s disclosure). Some advantages of Sorokine et al.'s teachings are optimization of the neighbor list, improved efficiency and uninterrupted connection during soft handoff (column 5, lines 46-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide Chen et al.'s BTS with indicia of the reduced active set from the BSC as taught by Sorokine et al. for the advantage of optimization of the neighbor list, improved efficiency and uninterrupted connection during soft handoff as explained above.

Furthermore, Chen et al. and Sorokine et al. are silent as to the particular use of RDCCCH as claimed.

The prior art admitted by applicant under the Background of the Invention, page 2 of present disclosure (simply "Admitted Prior Art" herein) teaches these are particular requirements of conventional CDMA systems. Because Chen et al. and Sorokine et al.'s systems are in fact CDMA systems (see column 1, lines 31-33 of Chen et al., and title of Sorokine et al., *inter alia*), all teachings are combinable.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide Chen et al. and Sorokine et al.'s invention with the claimed use of RDCCCH in order to comply with system requirements as taught by the Admitted Prior Art and also because this would have been the best engineering design choice.

Regarding **claim 5**, *the combination* discloses everything claimed as applied above (see rejection of *claim 3*). In addition, Chen et al. discloses wherein the BSC is configured to send indicia of the reduced active set to a BTS (BSC communicates set to MS via BTS – column 4, lines 14-41; column 6, lines 53-67; column 8, lines 38-40).

Regarding **claim 6**, *the combination* discloses everything claimed as applied above (see rejection of *claim 3*). In addition, Chen et al. discloses wherein the active set generator employs measurements of at least one pilot channel energy strength (column 3, lines 15-20; column 6, line 62; column 7, line 40).

Regarding **claims 7-8**, *the combination* discloses everything claimed as applied above (see rejection of *claim 3*). In addition, the prior art admitted by applicant under the Background of the Invention, page 2 of present disclosure (simply “Admitted Prior Art” herein) teaches these are particular requirements of conventional CDMA systems. Because Chen et al.’s system is in fact a CDMA system (column 1, lines 31-33), both teachings are combinable.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide *the combination* with the BSC commanding an RDCCCH or RSCACH channel to be used if the number of entries in the reduced active set is greater than one in order to comply with system requirements as taught by the Admitted Prior Art and also because this would have been the best engineering design choice.

Regarding **claim 9**, Chen et al. discloses a mobile station (MS – Figure 1), comprising:
means for extracting information employable to determine a set of members of an active set (column 3, lines 15-31);

means for extracting information employable to determine a set of members of a reduced active set (subset) (402 – Figure 4; column 3, lines 15-20; column 5, lines 23-28) (the active set

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is used to generate the reduced set / subset) (column 4, lines 30-34; column 6, lines 53-67; BSC perform calculations of reduced active set – column 8, lines 38-40; column 10, lines 28-30);

means for receiving control information from each member of the reduced active set when more than one as claimed [Chen et al. further includes base transceiver stations (BTS – Figures 1, 3). The reduced active set (subset) includes particular BTS and can be more than one BTS (e.g. BTS2 and BTS3 – column 6, lines 10-23). For example, BTS2 and BTS3 transmit “control information” over a control channel as claimed (column 6, lines 53-67; column 4, lines 30-41 & 60-67; column 5, lines 1-3). The BSC is configured to create indicia of the reduced active set (column 4, lines 30-34; column 6, lines 53-67; column 8, lines 38-40; column 10, lines 28-30)]; and

means for selecting a congestion control scheduling mode if the reduced active set comprises more than one member (reduced active set is used for congestion control – column 5, lines 43-46. At least inherently “if the reduced active set comprises more than one member” because there is no need to perform congestion control if the number is just one).

The explained reduced active set (subset) includes data rate mode channels for a reverse link (406 – Figure 4; column 9, lines 38-42). However, Chen et al. is silent as to that the data rate mode channels for a reverse link are received at the MS as claimed; therefore, silent about the means for receiving such.

In the same field of endeavor, Sorokine et al. teaches a BSC that sends to a BS (BTS) a NLUM (equivalent to claimed reduced active set or subset of Chen et al.); then the NLUM is sent from BS to MS (see Figure 3: “BSC SENDING NLUM TO BS” and “BS SENDING NLUM TO MS” and corresponding discussion in Sorokine et al.’s disclosure). Some advantages

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of Sorokine et al.'s teachings are optimization of the neighbor list, improved efficiency and uninterrupted connection during soft handoff (column 5, lines 46-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide Chen et al.'s MS with data rate mode channels for a reverse link as taught by Sorokine et al. for the advantage of optimization of the neighbor list, improved efficiency and uninterrupted connection during soft handoff as explained above.

Furthermore, Chen et al. and Sorokine et al. are silent as to the particular use of RDCCCH as claimed.

The prior art admitted by applicant under the Background of the Invention, page 2 of present disclosure (simply "Admitted Prior Art" herein) teaches these are particular requirements of conventional CDMA systems. Because Chen et al. and Sorokine et al.'s systems are in fact CDMA systems (see column 1, lines 31-33 of Chen et al., and title of Sorokine et al., *inter alia*), all teachings are combinable.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide Chen et al. and Sorokine et al.'s invention with the claimed use of RDCCCH in order to comply with system requirements as taught by the Admitted Prior Art and also because this would have been the best engineering design choice.

Regarding **claims 10-11, 14-16**, in view of 35 U.S.C. 112, second paragraph, problem explained above, *the combination* discloses everything claimed as applied above (see rejection of *claim 9*). In addition, Chen et al. further discloses means for selecting an explicit scheduling mode if the number of members of the reduced active set is equal to one; or means for selecting a congestion control mode if the number of members in the reduced active set is equal to one (see citations above).

The MS is configured to extract a reverse link channel data rate from the explicit control data rate channel. The MS is configured to extract reverse link channel data rate from the congestion control data rate channel. And transmit over a reverse link at the lower of the two data rates extracted from a plurality of congestion control channels (once data rate is determined MS transmits via reverse link at the given data rate – abstract; column 3, lines 1-31; column 7, lines 1-24; *inter alia*).

Regarding **claim 12-13**, *the combination* discloses everything claimed as applied above (see rejection of *claim 9*). In addition, Chen et al. discloses means for receiving a plurality of explicit data rate mode channels; and means for selecting one of a plurality of explicit data rate mode channels (abstract; column 3, lines 15-31, *inter alia*).

Regarding **claim 22**, Chen et al. discloses a system for setting a reverse link channel data rate through use of an active set and a reduced active set, comprising:

at least one base transceiver station (BTS – Figure 1; column 4, lines 14-66); and
a base station controller (BSC – Figure 1; column 4, lines 14-66) coupled to each of the at least one BTSs, the BSC configured to generate the reduced active set (subset) (402 – Figure 4; column 3, lines 15-20; column 5, lines 23-28) (the active set is used to generate the reduced set / subset) (column 4, lines 30-34; column 6, lines 53-67; BSC perform calculations of reduced active set – column 8, lines 38-40; column 10, lines 28-30).

Chen et al. further includes base transceiver stations (BTS – Figures 1, 3). The reduced active set (subset) includes particular BTS and can be more than one BTS (e.g. BTS2 and BTS3 – column 6, lines 10-23). For example, BTS2 and BTS3 transmit “control information” over a control channel as claimed (column 6, lines 53-67; column 4, lines 30-41 & 60-67; column 5,

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lines 1-3). The BSC is configured to create indicia of the reduced active set (column 4, lines 30-34; column 6, lines 53-67; column 8, lines 38-40; column 10, lines 28-30).

However, Chen et al. is silent as to that the indicia is sent to the BTS as claimed.

In the same field of endeavor, Sorokine et al. teaches a BSC that sends to a BS (BTS) a NLUM (equivalent to claimed reduced active set or subset of Chen et al.) (see Figure 3: "BSC SENDING NLUM TO BS" and corresponding discussion in Sorokine et al.'s disclosure). Some advantages of Sorokine et al.'s teachings are optimization of the neighbor list, improved efficiency and uninterrupted connection during soft handoff (column 5, lines 46-55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide Chen et al.'s BTS with indicia of the reduced active set from the BSC as taught by Sorokine et al. for the advantage of optimization of the neighbor list, improved efficiency and uninterrupted connection during soft handoff as explained above.

Furthermore, Chen et al. and Sorokine et al. are silent as to the particular use of RDCCCH as claimed.

The prior art admitted by applicant under the Background of the Invention, page 2 of present disclosure (simply "Admitted Prior Art" herein) teaches these are particular requirements of conventional CDMA systems. Because Chen et al. and Sorokine et al.'s systems are in fact CDMA systems (see column 1, lines 31-33 of Chen et al., and title of Sorokine et al., *inter alia*), all teachings are combinable.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide Chen et al. and Sorokine et al.'s invention with the claimed use of RDCCCH in order to comply with system requirements as taught by the Admitted Prior Art and also because this would have been the best engineering design choice.

Regarding **claim 23**, *the combination* discloses everything claimed as applied above (see rejection of *claim 22*). In addition, Chen et al. discloses wherein the BTS is coupled to a BTS distribution logic (Figure 1; column 4, lines 14-66).

11. **Claims 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US Patent Number 6,516,196) in view of Sorokine et al. (US Patent Number 6,430,414), further in view of the Admitted Prior Art (Background of the Invention, page 2 of present disclosure), and further in view of Rohani (US Patent Number 5,999,522).

Regarding **claim 4**, *the combination* discloses everything claimed as applied above (see rejection of *claim 3*). In addition, Chen et al. discloses wherein the reduced set generator employs forward link channel signal strength to determine members of the reduced active set (signal strength received at MS from BTS – column 3, lines 15-20).

However, *the combination* fails to specifically disclose that the reduced active set is further determined based on reverse link channel signal strength measurements (signal strength received at BTS from MS) as claimed. Nevertheless, the technique of using both reverse and forward link channel signal strength measurements is conventional in the art for the advantage of obtaining more accurate results, and Rohani is just evidence of the fact.

Rohani discloses a reduced active set generator where both reverse and forward link channel signal strength measurements are used to determined the set (forward link: the mobile station measures the strength of pilot signals which then are used as a criteria to create a list of possible candidate pilot signals for future hand-off – column 1, lines 46-49) (reverse link: determining the candidate list / reduced active set includes measuring reverse link signal which are received at said plurality of sectors / base stations – abstract of Rohani).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use both reverse and forward link channel signal strength measurements as claimed for the advantage of obtaining more accurate results.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

13. **Claims 17-21 and 24-26** are rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al. (US Patent Number 6,516,196).

Regarding **claim 17**, Chen et al. discloses a method for dynamically switching between explicit reverse link channel data rate control and reverse link channel data rate congestion control, comprising:

generating a reduced active set (subset) (402 – Figure 4; column 3, lines 15-20; column 5, lines 23-28) (the active set is used to generate the reduced set / subset) (column 4, lines 30-34; column 6, lines 53-67; BSC perform calculations of reduced active set – column 8, lines 38-40; column 10, lines 28-30);

transmitting indicia of the reduced active set to an MS (BSC communicates set to MS via BTS – column 4, lines 14-41; column 6, lines 53-67; column 8, lines 38-40); and

if the number of members of the reduced active set is greater than one, transmitting reverse link channel data rate control information in congestion control mode from each member of the reduced active set (reduced active set is used for congestion control – column 5, lines 43-

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46. Inherently if the number of members of the reduced active set is greater than one because there is no need to perform congestion control if the number is just one).

Regarding **claim 18-19**, Chen et al. discloses everything claimed as applied above (see rejection of *claim 17*). In addition, Chen et al. discloses wherein the step of generating a reduced active set employs the members of an active set (column 3, lines 15-31). And extracting data rate information in congestion control mode by a mobile station (reduced active set is used for congestion control by a mobile station – column 5, lines 43-46).

Regarding **claims 20-21**, in view of 35 U.S.C. 112, second paragraph, problem explained above, Chen et al. discloses everything claimed as applied above (see rejection of *claim 17*). In addition, Chen et al. further discloses wherein if the numbers of the members of the reduced active set is equal to one, transmitting reverse link channel data rate control information in a explicit control mode. And extracting data rate information in explicit mode by a mobile station (see citations above).

Regarding **claims 24-26**, they are corresponding computer program product, processor and system claims of method *claim 17*; therefore, they are rejected for the same reasons shown above.

Response to Arguments

14. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication from the examiner should be directed to Eliseo Ramos-Feliciano whose telephone number is 571-272-7925. The examiner can normally be reached from 8:00 a.m. to 5:30 p.m. on 5-4/9 1st Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold, can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ELISEO RAMOS-FELICIANO
PRIMARY EXAMINER

ERF/erf
July 8, 2006